ISBN: 978-623-92201-0-5

EXPLORING THE IMPACT OF NATIONAL CULTURE ON MOBILE PAYMENT ACCEPTANCE

Riyadita Hanna Kamilah and Nurrani Kusumawati
School of Business and Management, Institut Teknologi Bandung, Indonesia
Email: nurrani.k@sbm.itb.ac.id

Abstract. There is a shift of payment favorability in Indonesia, from cash to mobile payment. However, the people who utilize the mobile payment is only 14% hence there is a need to understand the market acceptance towards the technology. This paper combines the extended unified theory of acceptance and use of technology (UTAUT2) of Venkatesh, Thong, and Xu (2012) with a cultural dimension which is power distance from Hofstede (1980). That creates a new perspective of how the culture can affect technology acceptance. The model will be tested with SEM-PLS, in a quantitative study conducted in Indonesia's big cities. The results predict that factors, such as performance expectancy, habit, facilitating condition, and price value have positive effects towards the acceptance. The strongest predictors for mobile payment acceptance is habit. The power distance is also found to be significant to moderate the effect of behavioural intention and use on mobile payment.

Keywords: mobile payment; technology acceptance;UTAUT; cultural dimension

INTRODUCTION

Mobile payment can be defined as the digital version of a physical wallet someone would carry through a mobile platform where people can store their money just like in a bank account (Shukla, 2016). Indonesia shows a rapid growth of mobile subscriptions and devices which seem to offer the potential for cashless transactions (Kathleen, 2016). There are many companies, either banks or non-banks, that established a cashless payment, such as Gojek, Tcash, and OVO. According to APJII, only 14% of internet users utilize the Internet as a payment tool. Hence, it is important to understand the market adoption towards the product since the value of technology is within its acceptance and usefulness (Oye, Iahad and Ab-Rahim 2012). Indonesia is shifting from cash as their reliable payment towards mobile payment (FT Confidential Research). As Patel and Conolly stated, behind every adoption of technology has particular factors that influence it. Accordingly, mobile payment as a technological payment has various factors that has an impact on the mobile payment usage, one of them is behavioural intention. Understanding the customers' behaviour is important because it analyses why certain technology is accepted or chosen over the others (Peter & Olson, 2010). Hence, the importance of examining and evaluating it is undeniable.

Cultural aspects of the mobile payment users should be considered in further studies as it can influence the perceptions of the users in technology adoption (Akhlaq and Ahmed, 2013). Hofstede divided the cultural dimension into two groups; Asia and the US - Europe. As believed that the cultural differences have an important role (Clark 1990; Steenkamt et al. 1999; Hofstede 2007; Takada and Jain 1991) in deciding the individual's values in various cultures which eventually their behaviour (Markus and Kitayama 1991; Triandis 1989). Geert Hofstede stated that the influence of culture on consumption behaviour in mobile services is found to be significant. There are a few studies about the impact of culture on mobile banking, however there is no research regarding its impact on mobile payment adoption. Hence, there still needs to do the research in Asia, particularly Indonesia.

This study aims to analyse the factors influencing mobile payment adoption, examine the factors influencing mobile payment use, and map the technology use of mobile payment in Indonesia. This research will focus on the mobile payment users across Indonesia, especially big cities, such as Medan, Bandung, Surabaya, Jakarta, Bogor, Depok, Tangerang, and Bekasi. The research will also segment the respondent by its demographic factors, particularly the age since one of the factors that affects the

nts need to upload their KTP in order to enjoy their service.

LITERATURE REVIEW

Mobile Payment

Mobile payment (m-payment) defines as any payment in which a mobile device is utilized to initiate, authorize, and confirm a commercial transaction (Chandra et al. 2010). It aims at the purchase, payment or transfer of values done through the mobile device without the need for cash or the participation of banking institutions (Dahlberg, Mallat, Ondrus, & Zmijewska, 2008).

Mobile Payment in Indonesia

There are six mobile payment players in Indonesia that is covered in this research. Those are Go-pay, OVO, LinkAja, Dana, Sakuku, XL Tunai, and Paypro. The m-payment can be used for various transactions, such as online and offline shopping, paying bills, and

ISBN: 978-623-92201-0-5

even transferring money. However, there are limitations, such as a maximum balance of Rp10.000.000,- and transaction limit of Rp20.000.000,-/month or 20 times/day for Paypro, Sakuku, and XL Tunai.

Technology Acceptance

According to Louho, Kalliojaand Oittinen (2006), technology acceptance can be defined as how the technology is accepted and adopted by people for use. In this paper, the author will use the Unified Theory of Acceptance and Use of Technology (UTAUT) since a solid base why users accept or reject a technology in a specific perspective can be explained through this and the potential it has in enhancing our understanding of technology acceptance (Samawadikara and Gunawardena, 2014). The constructs will be explained further later.

Culture

The ideas, social behavior, and customs of each specific community or society is culture (Oxford Dictionary). The cultural factors have been reported that the acceptance models need to add them (Park, Yang, & Lehto 2007), in a way which the information systems used by people are influenced by culture (Im et al., 2011) or even for an essential moderator in technology acceptance (Srite & Karahanna, 2006).

Hypothesis Development

This research adopted the framework from Venkatesh (2012) which variables are performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivation, price value, habit, behavioral intention, and actual use behavior. The framework has been tested in various studies and is considered as a robust framework comparing to other technology adoption model (Oshlyansky, Cairns, & Thimbleby, 2007). Furthermore, this model will add the power distance from Hofsted since it is found that it is found to have an effect on technology acceptance (Rahmati, 2004).

Performance Expectancy

Performance expectancy can be defined as an extended to how an individual believes that adopting a system will help their order to achieve gains in a job (Davis et al., 1992). Previous research emphasized this factor as one of the most influential predictors of technology adoption (Louho et al. 2006; Al-Shafi and Weerakkody 2009; Abu-Shanab et al. 2010; Zhou 2013). Many researchers from various geographical condition agreed that this is an important factor for users to develop the behavioral intention.

Effort Expectancy

Effort expectancy means a degree of how a technology easiness associated with the use of system (Venkatesh et al, 2003). Venkatesh, et al. (2003) believed that in early stages, this factor has a significant impact on behavioural intention of technology acceptance which aligns with research from Sarfaraz, et al. (2016).

Social Influence

Social influence, refers as influences from external, is the constraint from the community surrounded in order for an individual to either perform or not the questioning behaviour (Taylor and Todd, 1995). The hypothesis is;

Facilitating Condition

Facilitating condition is the extent to which a person believes that both technical and organization infrastructure is possible for supporting the innovation (Venkatesh et al., 2012). Facilitating condition is also found to be a significant factor in influencing the behavioral intention and use, especially to those who value the issue of infrastructure (Venkatesh, Thong, & Xu, 2012). Thus, the hypothesis is;

Hedonic Motivation

The fun and pleasure that is derived from technology usage is what defines hedonic motivation and this factor is found to have an essential role in technology acceptance and use established (Brown and Venkatesh, 2005). Palau-Saumell, et al. (2019) found hedonic motivation to have a positive effect towards behavioral intention.

Price Value

The ties between price and the quality of products or services in marketing research is inseparable to discover the products' or services' value perceived (Zeithaml, 1988). Dodds et al. (1991) described price value as a trade-off of consumers' cognitive amidst the perceived advantages of the applications and the financial cost from technology utilized.

Habit

Venkatesh et al. (2012) implemented the context from Kim et al. (2005) which are the habituation proposition as habit/automaticity perspective (HAP) and instant activation perspective (IAP) as the one consistent with TPB. IAP assumes on the result of repeated behaviour can be a formidable attitudes and intentions which provoked by attitude cues or objects in the

ISBN: 978-623-92201-0-5

environment (Ajzen and Fishbein, 2000). IAP there is no need for consciousness in mental activities, such as belief construction or rejuvenation, as the intentions itself will automatically lead the behavior (Fazio, 1990). While HAP believes that the result of repeated behaviour is habituation and the stimulus cues can activate such behaviour directly (Ouellette and Wood, 1998; Ronis et al., 1989; Verplanken et al., 1998).

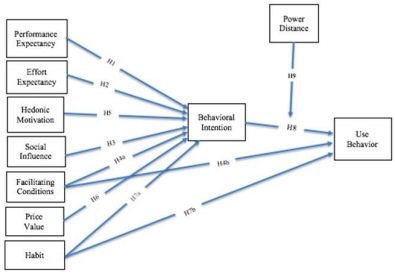
Behavioural Intention

Behavioral intention is the subjective probability of performing particular attitude of an individual's and an actual usage behavior's notable determinant (Fishbein & Ajzen 1975). The relationship between behavioral intention towards behavioral use is proven to be the best predictors in explaining the customer's use behavior (Williams, M. D., Rana, N. P., & Dwivedi, Y. K., 2015).

Power Distance

Power distance is the degree to which an acceptance by society of how unfair a power is distributed (Teng, Calhoun, Cheon, Raeburn and Wong, 1999). The higher the power distance is the more likely subordinates expect to be told what to do (Hofstede, 1980). A country with high power distance such as Singapore is found to react more positively towards technology adoption, if the government told them to do so (Rahmati, 2004). That is accordance with the prior research from G Baptista & T Oliveira (2015).

Conceptual Framework



H1: Performance Expectancy has significant effect on behavioural intention towards using mobile payment.
H2: Effort Expectancy has significant effect on behavioural intention towards using mobile payment.
H3: Social Influence has significant effect on behavioural intention towards using mobile payment
H4a: Facilitating condition has significant effect on behavioural intention towards using mobile payment.
H4b: Facilitating condition has significant effect on behavioural use towards using mobile payment.
H5: Hedonic motivation has significant effect on behavioral intention towards mobile payment.
H6: Price value has significant effect on behavioral intention towards mobile payment.
H7a: Habit has significant effect on behavioral intention towards mobile payment.
H7b: Habit has significant effect on behavioral use towards mobile payment.
H8: Behavioral intention has significant effect on behavioral use towards mobile payment.
H9: Power distance has a moderating impact on behavioural intention and behavioural use, which impact is stronger amongst culture that has higher power distance.

METHODOLOGY

This study will use both primary and secondary data. A questionnaire in Indonesia will be divided into three sections: (I) UTAUT2 information develops, (ii) cultural parameters, (iii) demographic and personal data. The question design and scales for the UTAUT2 were adjusted from Venkatesh et al. (2003) and Venkatesh et al. (2012), use behavior from Martins et al. (2014), and uncertainty avoidance from Srite and Karahanna (2006). Everything was estimated with a seven-point Likert scale, going from ''extremely disagree'' (1) to "extremely agree" (7). The Martins et al. (2014) use behavior was coded from 1 (never) to 11 (a few times each day). The questionnaire targets (i) 17-54 years old Indonesia, (ii) Live in Bandung, Jakarta, Bogor, Depok, Tangerang, Bekasi, Medan, and Surabaya, (iii) have mobile device and internet access, and (iv) have m-payment account(s).

An online review instrument was created with the Indonesians version of the questionnaire, accommodated on a prominent web specialist organization for gathering information, since the studies of technologies acceptance have customarily been conducted using questionnaires (Venkatesh et al., 2003). In order to analyze the data structural equation modeling (SEM) will be applied. There are two techniques prevailed which are variance based and covariance based. The variance-based techniques were used to test the conceptual framework, which is partial least square (PLS), using SmartPLS (Ringle et al., 2005). This powerful and convenient statistical technique is chosen because it is considered as a proper tool for many research situations (Henseler, Ringle, & Sinkovics, 2009) and also is applicable for understanding complex models that has numerous constructs (Chin, 1998). The study will be analyzed through the two-step approach which have measurement mode and structural model.

ISBN: 978-623-92201-0-5

FINDINGS AND ARGUMENT

Performance expectancy, facilitating condition, habit, and price value are found to have a significant effect towards behavioral intention which aligns with research from Yang, et al. (2012), Sarfaraz, et al. (2016), and Manaf & Aryanti (2017). Habit is also found to have a postive effect on actual use of behavior which is in line with the research from Yeh &Seng (2017). It means that the users of mobile payment will have a greater intention and use in utilizating m-payment if there are beneficial features with a good price and supported infrastructure. The users' prior use and repetead behavior will boost their intentions and frequecy of m-payment use as well, especially since it is the highest predictor for m-payment acceptance. Furthermore, power distance has a moderating effect between behavioral intention and use of m-payment which aligns with the research from G. Baptista & Olivera (2015). Therefore, the governement support and intervension to utilize m-payment in Indonesia will actual create a stronger impact on behavioral intention and use of m-payment.

CONCLUSIONS

The findings for m-payment's acceptance in Indonesia are expected to have advantages features with good value and supporting infrastructure to implement m-payment, as well as the repeated use of m-payment. The cultural dimension, power distance, should be added for future research since the impact is significant. Thus, the other cultural dimensions should also be added since culture can have an impact towards technological use. There are things should be remembered regarding the findings, such as the convinience sampling since the it is more likely to create a bigger bias. Furthermore, the study only predicts the behavior of customers from big cities and Indonesia is bigger than that. Hence, the potential of m-payment's growth is huge here. The implications of this study for the researchers, these findings can be a basis and refinement for future research. While for the practitioners, these results showed how important it is to understand the constructs to design, improve, and start a m-payment that gain customers' acceptance and prominence.

REFERENCES

Ajzen, I., and Fishbein, M. 2000. "Attitudes and the Attitude-Behavior Relation: Reasoned and Automatic Processes," European Review of Social Psychology (11:1), pp. 1-33.

Ather Akhlaq Ejaz Ahmed. (2013). The effect of motivation on trust in the acceptance of internet banking in a low income country. International Journal of Bank Marketing, Vol. 31 Iss 2 pp. 115 – 125. https://doi.org/10.1108/02652321311298690

Azali, K. (2016). Cashless in indonesia: Gelling mobile E-frictions? Journal of Southeast Asian Economies, 33(3), 364-386. doi:http://dx.doi.org/10.1355/ae33-3e

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior,50, 418-430. doi:10.1016/j.chb.2015.04.024

Chandra, S., Srivastava, S. C., & Theng, Y. (2010). Evaluating the Role of Trust in Consumer Adoption of Mobile Payment Systems: An Empirical Analysis. Communications of the Association for Information Systems, 27, pp-pp. https://doi.org/10.17705/1CAIS.02729

Dahlberg, Tomi; Mallat, Niina; Ondrus, Jan; and Zmijewska, Agnieszka, " Mobile Payment Market and Research - Past, Present and Future" (2008). All Sprouts Content. 166. http://aisel.aisnet.org/sprouts_all/166

Davis, Fred D., Bagozzi, Richard P., and Warshaw Paul R. (1992). Extrinsic and Intrinsic Motivation to Use Computers in the Workplace. Journal of Applied Social Psychology. doi: https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

Hofstede, G. H. (1980). Culture's consequences: International differences in work- related values. Beverly Hills, CA: Sage Publications.

Hofstede, Geert. 2007. A European in Asia. Asian Journal of Social Psychology.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). Cultures and organizations: Software for the mind (third ed.). McGraw-Hill, p. 576.

Kim, S. S., Malhotra, N. K., and Narasimhan, S. 2005. "Two Competing Perspectives on Automatic Use: A Theoretical and Empirical Comparison," Information Systems Research (16:4), pp. 418-432.

Louho, R., Kallioja, M. and Oittinen, P. (2006). Factors affecting the use of Hybrid media applications. Graphic arts in Finland, 35 (3), pp. 11-21.

Manaf and Ariyanti. (2017). Exploring Key Factors on Technology Acceptance of Mobile Payment Users in Indonesia Using Modified Unified Theory of Acceptance and Use of Technology (UTAUT) Model Use Case: ABC Easy Tap. International Journal of Management and Applied Science, ISSN: 2394-7926

Markus and Kitayama. 1991. Culture and the Self: Implications for Cognition, Emotion, and Motivation. Psychological Review 98(2):224-253. doi: 10.1037/0033-295X.98.2.224.

ISBN: 978-623-92201-0-5

Oye, Iahad and Ab-Rahim. (2012). A Comparative Study of Acceptance and Use of ICT among University Academic Staff of ADSU and LASU: Nigeria. International Journal of Engineering and Technology. https://doi.org/10.1111/j.1467-839X.2006.00206.x

Park, J., Yang, S., & Lehto, X. (2007). Adoption of mobile technologies for Chinese consumers. Journal of Electronic Commerce Research, 8, 196–206.

Peter, J. Paul; Olson, Jerry C. (2010). Consumer Behavior & Marketing Strategy. USA: McGraw-Hill.

Samaradiwakara, G., D., M., N., & Gunawardena, C., G. (2014). Comparison of Existing Technology Acceptance Theories and Models to Suggest a Well Improved Theory/Model. Retrieved from http://elpjournal.eu/wp-content/uploads/2016/03/itsj-spec-1-1-3.pdf

Srite, M., & Karahanna, E. (2006). The role of espoused national cultural values in technology acceptance. MIS Quarterly, 30(3), 679–704.

Steenkamp Jan-Benedict E.M.; Hofstede; Frenkel ter ; Wedel Michel. (1999), "A Cross-National Investigation into the Individual and National Cultural Antecedents of Consumer Innovativeness", Journal of Marketing, Vol. 63 Issue 2, p55-69.

Takada Hirokazu; Jain Dipak.(1991), "Cross-national analysis of diffusion of consumer durable goods in Pacific Rim countries", Journal of Marketing, Vol. 55 Issue 2, p48-55.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. Psychological Review, 96, 506-520.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view1. MIS Quarterly, 27(3), 425-478. Retrieved from https://search.proquest.com/docview/218137148?accountid=31562